Amendments to the Claims

1.   (Previously Presented) A method of differential quantization in video coding of a coded video bit stream, comprising:

analyzing motion vectors of macroblocks for a frame of a video sequence to determine whether global motion of the video at the frame in the video sequence is characteristic of panning or zooming;

classifying regions of the frame according to perceptual significance based on the global motion determination;

differentially quantizing the regions according to their perceptual significance classification in coding a compressed bit stream of the video sequence;

signaling different quantization of the regions in the compressed bit stream, wherein the signaled different quantization includes signaling different quantization strength for macroblocks in a region on at least one boundary edge of the frame, and wherein the signaling uses a syntax that includes coding a choice of the region from among the boundary edges of the frame;

reading the signaled different quantization from the compressed bit stream; and

dequantizing the macroblocks of the frame according to the signaled different quantization.

2.   (Original) The method of claim 1 wherein the signaling different quantization uses a syntax that includes coding a frame level quantization strength and an alternative quantization strength coded as a difference from the frame level quantization strength.

3.   (Original) The method of claim 1 wherein the signaling different quantization uses a syntax that includes coding the region to be any of left, right, top, or bottom boundary edges.

4.   (Original) The method of claim 1 wherein the signaling different quantization uses a syntax that includes coding the region to be any of adjacent pairs of left, right, top, and bottom boundary edges.

5.   (Original) The method of claim 1 wherein the signaling different quantization uses a syntax that includes coding the region to be any of a single boundary edge, and a pair of adjacent boundary edges.

6.   (Previously Presented) The method of claim 1 wherein the signaling different quantization uses a syntax that includes coding a choice of the region from among any of a single boundary edge, a pair of adjacent boundary edges, and all four boundary edges.

7.   (Previously Presented) The method of claim 1 wherein the signaling different quantization uses a syntax that includes coding a choice of the region from among any of a single boundary edge, a pair of adjacent boundary edges, all four boundary edges, and all macroblocks individually.

8-24.   (Canceled).

25.   (New) A computer-readable storage medium encoded with computer-executable instructions for executing on a computer to perform a method of differential quantization in video coding and decoding of a coded video bit stream, the method comprising:
        analyzing motion vectors of macroblocks for a frame of a video sequence to determine whether global motion of the video at the frame in the video sequence is characteristic of panning or zooming;
        classifying regions of the frame according to perceptual significance based on the global motion determination;
        differentially quantizing the regions according to their perceptual significance classification in coding a compressed bit stream of the video sequence;
        signaling different quantization of the regions in the compressed bit stream, wherein the signaled different quantization includes signaling different quantization strength for macroblocks in a region on at least one boundary edge of the frame, and wherein the signaling uses a syntax that includes coding a choice of the region from among the boundary edges of the frame;
        reading the signaled different quantization from the compressed bit stream; and

dequantizing the macroblocks of the frame according to the signaled different
quantization.

26.   (New) The computer-readable storage medium of claim 25 wherein the signaling
different quantization uses a syntax that includes coding a frame level quantization strength and
an alternative quantization strength coded as a difference from the frame level quantization
strength.

27.   (New) The computer-readable storage medium of claim 25 wherein the signaling
different quantization uses a syntax that includes coding the region to be any of left, right, top, or
bottom boundary edges.

28.   (New) The computer-readable storage medium of claim 25 wherein the signaling
different quantization uses a syntax that includes coding the region to be any of adjacent pairs of
left, right, top, and bottom boundary edges.

29.   (New) The computer-readable storage medium of claim 25 wherein the signaling
different quantization uses a syntax that includes coding the region to be any of a single
boundary edge, and a pair of adjacent boundary edges.

30.   (New) The computer-readable storage medium of claim 25 wherein the signaling
different quantization uses a syntax that includes coding a choice of the region from among any
of a single boundary edge, a pair of adjacent boundary edges, and all four boundary edges.

31.   (New) The computer-readable storage medium of claim 25 wherein the signaling
different quantization uses a syntax that includes coding a choice of the region from among any
of a single boundary edge, a pair of adjacent boundary edges, all four boundary edges, and all
macroblocks individually.